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PROGRAM AND ABSTRACTS ISSUE

manner to each port of the hemodialysis catheter with the total dose being administered systemically in less than one hour. 117 doses of t-PA were administered to 44 outpatient hemodialysis patients.

Restoration of blood flow ($Q_b > 300$ cc/min) was observed in 59% of right internal jugular (IJ) catheters, 52% of left IJ catheters, and 44% of subclavian and temporary hemodialysis catheters. Successful completion of hemodialysis treatment (regardless of blood flow) was observed in 91% of right IJ catheters, 97% of left IJ catheters and 81% of subclavian and temporary catheters. No complications were observed from 5 mg of t-PA administered centrally via hemocatheters.

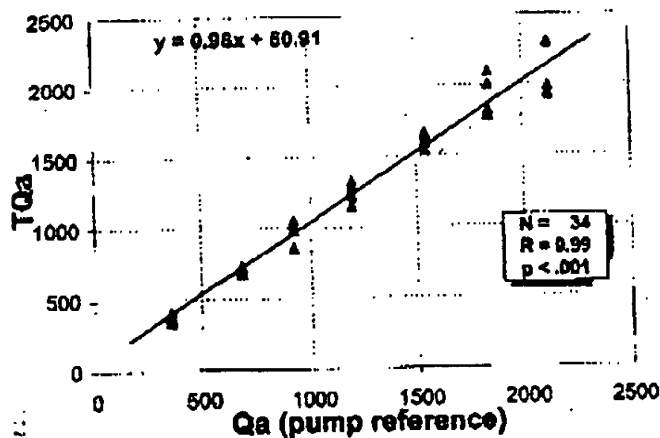
Reconstituted, frozen and thawed alteplase was used safely and demonstrated effectiveness in the clearance of central venous hemodialysis catheters.

A1054

Transdermal Access Blood Flow (TQa): A Novel In-Vitro Model and Method. R. Steuer, D. Miller, B. Zhang, D. Bell. *In-Line Diagnostics, Kaysville, UT.*

Current indicator dilution access blood flow (Qa) techniques are time consuming, and require dialysis line reversals. A transcutaneous sensor capable of measuring Qa directly from changes in access hematocrit (Hct) induced by a single saline injection without line reversal has been developed.

An in-vitro cardiovascular-dialysis model was constructed to test TQa using a 1L central blood volume, a 4L venous pool, and a PT FE shunt covered with 15 mm of chicken skin. A typical arterial-venous dialyzer circuit and pump was connected to the access simulating HD treatment conditions. With the cardiac output pump at 4-6L/min, a Qa pump was varied from 360 to 2200 ml/min. A small 25 x 30 mm TQa sensor was placed on top of the chicken skin directly over the access to measure the Hct, approximately 25mm downstream of the venous needle, and a single 5 sec bolus of saline (Qi) was infused at 400 ml/min directly into the access with the following results:



The average TQa measurement error over the Qa range of 360 to 2200 ml/min was 1.4%. TQa measurements were independent of access size or material, or chicken skin thickness and melanin content (which was varied during the tests). The results demonstrate that TQa has potential for highly accurate and reproducible Qa measurements without line reversals. Because the saline bolus can be injected directly into the access, it may also be possible to routinely measure Qa interdialytically.

compared with forearm VA (to undergo any Int comparison). In conclusion, serial de

A1056

Total Body Water at Automated Peritoneal Dialysis. Stingone, Raffaele Di D'Angelo, Claudio Spis

Aims of this study were hydration conditions and to and automated (APD) dialysis was in relationship with TE

Thirty-five patients undergoing (M:F 13:5, mean age 62.2 ± 10 months, NTPD 1 CCPD), group one 35 ± 10 months) were on CA Akern RJL, Florence (Italy).

Residual renal function. mL/min, 2.10 ± 0.24 , 71.5 ± 8 . None statistically significant (W) expression or obtained 34.5 ± 5.8 L (W), 36.2 ± 6.1 L differences were observed statistically significant differences water (ECW%): (G1: 49.5 ± 3.8 G1 compared to G2 (G1: 3.8 statistically relationship between on the contrary the decrease $p = 0.000006$).

This study shows that B and CAPD induce in peritoneal compartmentalization. The clear.

A1057

70% Prevalence of Infection in Hemodialysis Access. Marwan Tabbara, Edo Marek Zalewski. ¹Surgery ²Medicine (Nephrology)

The native AV fistula hemodialysis access than the most widely used access for to the field of GRAFT surgery.

As a group of vascular surgeons with the most durable and reliable a strict policy to create a FIS that an IJ Tesio catheter will become infected. If the su

In: ASN Program, October 2000

Codes: FC - Free Communication; PS - Poster Session

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obtained Hct from national EPO/hematocrit 1996-1999 claims. Three month "rolling" average hematocrits were calculated to evaluate percentages of pts with 90-day "rolling" Hct $\geq 37.5\%$. Sand diagrams were constructed to evaluate trends within Hct ranges: $<30\%$, $30-33\%$, $33-36\%$, $36-37.5\%$, $37.5-39\%$ and $\geq 39\%$.

In general, Hct levels have been consistently rising since the DOQI guidelines were released and the HMA prepayment review was discontinued. In particular, the percentage of pts with "rolling" Hct $\geq 37.5\%$ has risen from 4.6% in July 1998 to 15.8% in September 1999. The percentage of pts with "rolling" Hct between 36-37.5% has increased from 7.8 to 15.3% in the same time-frame. The increase in percentage of pts with Hct $\geq 37.5\%$ may reflect an increased number of pts with medical justification for higher Hcts or may reflect natural statistical variation in Hct levels as providers attempt to achieve the DOQI target. It appears payment policies need to consider the clinical and statistical variability in Hct levels to ensure these policies are not in conflict with established medical efficacy targets.

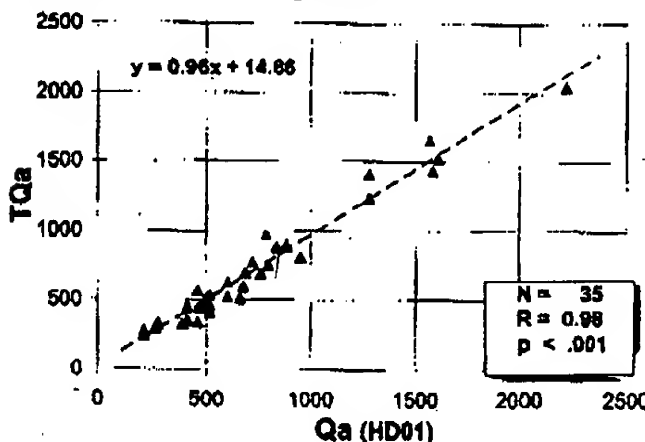
A1575

SU1016 (FC)

Non-Invasive, Transdermal Access Blood Flow (TQa). R. Steuer,¹ D. Miller,¹ B. Zhang,¹ D. Bell,¹ J. Leypoldt.² ¹In-Line Diagnostics, Kaysville, UT, ²University of Utah, Salt Lake City, UT.

Current indicator dilution access blood flow (Qa) techniques are time consuming, and require line reversals. We have described an optical transcutaneous hematocrit (Hct) sensor for determining the Qa directly under the sensor and validated the accuracy of this in vitro TQa method using a normal line setup (Steuer, et al, ASN 2000 Abstract).

In this in vivo study, we previously calibrated TQa to the in vitro model and then compared TQa to the HD 01 monitor (Transonic Systems) under typical clinical conditions in 35 hemodialysis (HD) patients (23 fistulas, 12 PTFE grafts). Duplicate measures were obtained for each method. The TQa sensor was placed on the skin over the access to measure the Hct, approximately 25mm downstream of the venous needle. A single 30 ml bolus of saline given over 6 seconds was infused directly into the venous line without dialysis line reversal with the following results:



Over the Qa range of 245 to 2290 ml/min, COV's were 9% and 10% for the reference HD 01 and TQa devices respectively. Therefore, the transcutaneous measurement of Qa is a viable, accurate, repeatable and simple technique requiring a single 6 second saline injection into a normal HD line configuration. Because the saline bolus can also be injected directly into the access, it may also be possible to routinely measure Qa in HD patients interdialytically using this novel method.

In: ASN Program, October 2000

Free Communication; PS - Poster Session.

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